

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method of making a diamond product having a projection or a depression on a surface thereof by etching, said method comprising the steps of: forming a diamond substrate with a mask layer including a metal layer in at least one part thereof; and etching said diamond substrate formed with said mask layer with a plasma of a mixed gas composed of a gas containing an oxygen atom and a gas containing a fluorine atom; wherein said fluorine atom has a concentration within the range of 0.04% to 6% with respect to the total number of atoms in said mixed gas, said plasma is produced by generating a high-frequency discharge between two plate electrodes, said high-frequency discharge is generated by supplying an electric power of at least  $0.45 \text{ W/cm}^2$  between said plate electrodes, and said mixed gas further contains nitrogen gas, thereby to form the diamond product having a the projection having or depression with a side face with an angle of inclination of at least 78 degrees,

wherein said mixed gas contains nitrogen gas in an amount such that the intensity ratio A/B of said mixture is greater than the intensity ratio A/B of pure oxygen, where A is the intensity of an emission peak caused by atomic oxygen and B is the intensity of an emission peak caused by molecular oxygen.

2. (Cancelled)

3. (Previously Presented) A method of making a diamond product according to claim 1, wherein said gas containing said fluorine atom is  $\text{CF}_4$  gas; and

wherein said CF<sub>4</sub> gas has a concentration within the range of 0.02% to 3% with respect to the total number of molecules in said mixed gas.

4. (Original) A method of making a diamond product according to claim 1, wherein said gas containing said oxygen atom is one of O<sub>2</sub>, CO<sub>2</sub>, and a mixed gas composed of O<sub>2</sub> and CO<sub>2</sub>.

Claims 5-11. (Cancelled)